an elevation commanding a perfect horizon in the east, observing the stars with a telescope, and awaiting the rising of the new comet, Brooks. At 7:30 p. m. there was a light wind in this locality from the northwest, mere breathings. At about 9 p. m. there came a sudden gust of wind, lasting but the fractional part of a minute, and then, some minutes later succeeded by another gust of more force. After this they came more frequently, and soon developed into a cold, gusty, northeast wind, which lasted with variable force until 1 a. m., when I retired. At that hour the wind was strong but more to the north. Our horizon in the northeast quadrant is low. In the southeast, limited by mountain crests from four to seven miles distant, and ranging from one thousand to sixteen hundred feet high. Beyond this horizon are a succession of other mountains hidden from our view, with deep valleys between, including the valley of the Hudson River. The night was cloudless until the wind came.

Soon after this a few cloudlets of stratus formed near the north end of the mountains, say east-northeast, near the horizon, but disappeared before the appearance of the phenomenon I am about to mention.

At the moment of the rising of Fomalhaut above the mountains southeast, we noticed a gleam of lightning, of rather delicate type, just to the left of the star, and back of the mountains. The conditions were such that we could hardly believe that it was lightning, but it continued and increased, waxing and waning until we discontinued observations at 1 a. m. It seemed to me that it changed intensity with the wind. The lightning occurred at frequent intervals all along the horizon from the point of origin to near the east point, and was undoubtedly true lightning.

This is the first time I ever saw lightning in a cloudless sky, and it occurred to me that it might be of interest to the Weather Bureau to question their observers about it, as such phenomena are rare.

My first impression was that it was the reflection from a distant thunderstorm, as the lightning seemed always beyond the mountains and the place of origin below the crest line. On inquiry of some friends who were at Hemstead, L. I., that evening, they informed me that the night there was cloudless, and that at one time lightning occurred, as they then thought, but later concluded it was produced by a falling meteor of the August stream, many of which were visible that night there, as well as here. This information seems to exclude the thunderstorm theory. It seemed to me possible that the cold, gusty wind currents, falling at a steep gradient, as shown by the gusty type of the wind, might exchange electricities with the warmer surface air forced upward, and thus explain the phenomenon. The character of the topography would seem favorable, under such conditions, to the formation of convection currents with steep gradients.

With regard to the above, the Editor can only say that the daily weather map for 8 p. m., August 3, gives no indication of conditions favorable to lightning in the neighborhood of Newburg on the Hudson. In fact, the map shows that New England and eastern New York were in the midst of an area of high pressure and cloudless skies, and the cool, northerly winds had rapidly extended southward over this region. In general, as we have often had occasion to say, cloudless skies and dry air mean a general descending tendency in the atmosphere. The cold air that streamed down the Hudson River Valley was but one incident in the general character of the high area. Inasmuch as the sky was clear for 100 miles east of Newburg, we think there is no reason to assume a distant thunderstorm or even real lightning flashes between the earth and the sky, and we therefore incline to believe that Mr. Weed, like his correspondent at Hempstead, L. I., must have observed the flashes produced by distant meteors descending, perhaps nearly vertically, through the air toward the earth. Still, to a careful observer, the lightning flash and the meteor flash ordinarily present very different appearances, and we should be glad to receive some better explanation from those living east of the Hudson who may have seen the same phenomenon.

On Tuesday, August 7, about 5 p. m., according to a news despatch from Richmond, Va., lightning from an apparently clear sky, without warning, struck Mr. W. R. White and a colored farm hand near Coldharbor, Hanover County, while both were working in the open field.

The weather map gives no indication of any thunderstorm or rain in this neighborhood at that time; an area of high pressure prevailed, with very hot atmosphere near the ground. During the subsequent night it was cloudless throughout this region; a cool northwesterly wind sprang up. The circumstances are parallel to those attending the small lightning flashes seen at Newburg, except that the latter occurred at night-time. In both cases a cool breeze succeeded to a hot day, whence we infer that a vertical circulation of air was in progress. Ordinarily we think of the lightning that attends a thunderstorm as being in some way the result of the formation of cloud and rain or hail, but the frequent reports of lightning from a perfectly clear sky seem to suggest that the ascent and descent of the currents of air is the important feature in both cases.

WEATHER BUREAU STATION ON TURKS ISLAND.

Through the kindness of the local authorities, the Weather Bureau has opened a station at Grand Turk, Turks Island, W. I. (latitude, 21° 20′ N.; longitude, 71° 0′ W.; height of barometer above sea level, 11.3 feet). The station is located at the cable hut and the observations are made by Mr. O. Crewe-Read, who is not only station agent for the Weather Bureau but also operator for the cable company. His weather report will now be published regularly in the Royal Standard newspaper at that place and replaces the weather report hitherto published as made up by the messenger at the public buildings. When so ordered from headquarters at Washington or Havana, Mr. Crewe-Read will post on the bulletin board at the post office, advisory messages relative to hurricanes in the vicinity, and if one is to approach too near the island he will order the hurricane warning displayed on the flagstaff of Messrs. Frith, Brothers, so that the public may have ample warning of the approach of a dangerous storm.

The arrangements above mentioned were made under the immediate supervision of Dr. H. A. Frankenfield, Forecast Official, who visited the island for this purpose in June.

WELLS AND STORMS.

A correspondent says:

Why is it that in dozens of our bored wells the water just before a storm becomes riley, or partly muddy? From twelve to twenty-four hours before a storm my well becomes muddy and stays so."

As we know nothing about the location of these wells or the character of the storms with which the phenomenon occurs, we can only suggest a possible explanation. Extensive storms occur in the midst of areas of low pressure. When the barometric pressure is diminishing the air imprisoned within the soil can more easily push its way outward. Wells are but holes that open the way into the lower strata, and give the air and water contained therein an easier mode of egress. Every area of low barometer that passes near the well facilitates the escape of gas, and even of water, so that the well should stand higher when low pressures prevail. The bubbling up of the air through the water would undoubtedly make it riley, and, especially so if there be a deposit of fine mud and decaying vegetable matter at the bottom of the well. The trouble can be partly remedied in "dug" wells by placing one or two broad flat stones in a slightly inclined position at the bottom of the well, so that rising bubbles and muddy water are turned off to one side. But for bored wells, whose sides are cased with iron piping, we know of no remedy. Natural springs often flow more freely when the air pressure diminishes.

THE FREQUENCY AND EXTENT OF DESTRUCTIVE HAIL.

A newspaper paragraph states that a destructive, and in fact terrific hailstorm, occurred on July 30–31, in the valley of the Verde River, Ariz., and, especially between Pima and